

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

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Applicant's or agent's file reference PCT079	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEAA16)	
International application No. PCT/IB 03/02890	International filing date (day/month/year) 18.07.2003	Priority date (day/month/year) 22.07.2002
International Patent Classification (IPC) or both national classification and IPC A01K63/06		
Applicant CONTECH EUROPE HOLDING S.A. ET AL.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 3 sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☐ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 23.02.2004	Date of completion of this report 02.11.2004
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB 03/02890

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1, 3-5 as originally filed
2 filed with telefax on 23.02.2004

Claims, Numbers

1-16 filed with telefax on 23.02.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB 03/02890

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 1-16

because:

☒ the said international application, or the said claims Nos. 1-16 relate to the following subject matter which does not require an international preliminary examination (specify):

see separate sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB 03/02890

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The amendments filed with letter dated 23.02.2004 with the International Bureau under Article 19(1) introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 19(2) PCT. The amendments concerned relating to the newly filed claim 1 (see claim 1, lines 10 and 11) are the following: "the tubular element of metal material is open at both ends". Moreover the newly introduced subject-matter seems to be in contradiction with the new claim 4 ("the layer of metal material ... completely surround the heating element") and the description, see page 3, lines 20-24 (Article 6 PCT).

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dards, and which further involve a high cost in comparison with the glass devices owing to the material used.

An example of this prior art is disclosed in FR-A-2401585.

Finally, a device having a casing of plastics material is known from Italian patent no. 1300229. This device has never been marketed, however, since it is not suitable for withstanding high temperatures, such as, for example, those reached by the device should it remain live out of the water, at which temperatures the plastics material softens. It is possible to overcome this disadvantage by producing the casing from heat-resistant plastics materials, such as thermo-resistant resins, which have the disadvantage, however, of high cost.

Description of the invention

The problem addressed by the present invention is to provide an immersion heater device for aquariums and the like which is structurally and operationally designed to overcome the limitations set out above with reference to the prior art cited.

This problem is solved by the present invention by means of an immersion heater device for aquariums and the like which is produced according to the claims below.

Brief description of the drawings

The features and advantages of the invention will be better appreciated from the description below of one preferred embodiment which is illustrated purely by way of non-limiting example with reference to the appended drawings, in which:

- Fig. 1 is an exploded view of an immersion heater device produced according to the invention;
- Fig. 2 is a perspective view of the heater device of Fig. 1;
- Fig. 3 is a sectioned side view of the heater device of Fig. 1;
- Fig. 4 is a sectioned view to an enlarged scale of a detail of the heater device of Fig. 1.

Preferred method of carrying out the invention

With reference to the Figures, an immersion heater device for aquariums and the like which is produced according to the present invention is generally indicated 1.

CLAIMS

1. Immersion heater device for aquariums and the like, comprising a casing (2) which contains a heating element (6), wherein the casing, at least in the region of a radiant zone of the heating element, comprises a layered structure having at least one layer (8) of metal material and one layer (9) of plastics material, the layer of metal material being interposed between the heating element and the layer of plastics material, each of the layer of metal material and the layer of plastics material being in the form of a cylindrical tubular element, characterized in that the tubular element of plastics material (9) is closed at one end and open at an axially opposite end while the tubular element of metal material is open at both ends.
2. Heating device according to claim 1, wherein the layered structure comprises a layer of insulating material (21).
3. Heating device according to claim 1 or claim 2, wherein the layer of plastics material (9) and the layer of metal material (8) are in contact with each other.
4. Heating device according to claim 3, wherein the layer of metal material and the layer of plastics material completely surround the heating element.
5. Heating device according to claim 4, wherein the layer of metal material (8) and the layer of plastics material (9) constitute a continuous wall.
6. Heating device according to any one or more of claims 2 to 5, wherein the layer of insulating material (21) is interposed between the layer of metal material (8) and the heating element (6).
7. Heating device according to any one or more of the preceding claims, wherein the layer of metal material (8) is produced from aluminium.
8. Heating device according to any one or more of the preceding claims, wherein the layer of plastics material (9) is produced from resin reinforced with glass fibre.
9. Heating device according to claim 9, wherein the resin is polyamide.
10. Heating device according to any one or more of claims 2 to 10, wherein the layer of insulating material (21) is produced from mecanite or ceramic material.
11. Heating device according to any one or more of the preceding claims, wherein the casing (2) comprises a second tubular element (10) which is con-

connected to a first tubular element (3) having the layered structure, the second tubular element defining two axially opposite ends (10a, 10b) which are both open.

12. Heating device according to claim 12, wherein the second tubular element is mechanically connected, with sealing means being interposed, to the first tubular element (3) having a layered structure.

13. Heating device according to claim 13, wherein the mechanical connection means between the tubular elements are of the permanent type.

14. Heating device according to any one or more of claims 12 to 14, comprising a thermostat (13) for regulating the temperature of the water of the aquarium, which thermostat (13) is housed in the second tubular element (10).

15. Heating device according to any one or more of claims 12 to 15, wherein the second tubular element (10) is produced from transparent plastics material.

16. Heating device according to any one or more of the preceding claims, comprising means for limiting the temperature by interrupting the energy supply to the heating element (6) in the event that the temperature of the casing (2) exceeds a pre-set limit value.

20